

# Automotive industry

The **automotive industry** comprises a wide range of [companies](#) and [organizations](#) involved in the [design](#), [development](#), [manufacturing](#), [marketing](#), [selling](#), [repairing](#), and [modification](#) of [motor vehicles](#).<sup>[1][2]</sup> It is one of the world's largest [industries](#) by [revenue](#) (from 16% such as in France up to 40% in countries such as Slovakia).<sup>[3]</sup>



An automotive [assembly line](#) at [Opel Manufacturing Poland](#) in 2015



[SEAT](#), [Škoda](#), and [Volkswagen](#) cars being transported by train in [Kutná Hora](#), [Czech Republic](#) in 2014

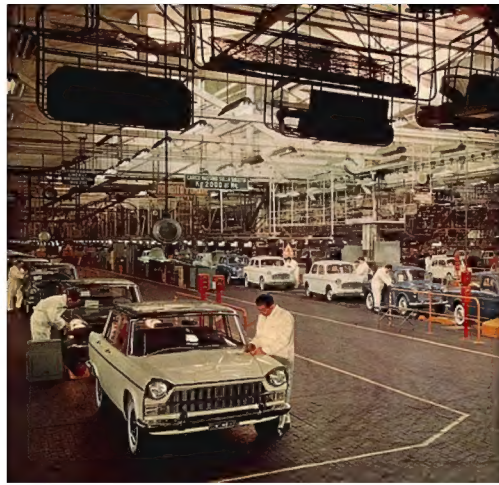
The word *automotive* comes from the [Greek](#) *autos* (self), and [Latin](#) *motivus* (of [motion](#)), referring to any form of self-powered vehicle. This term, as proposed by [Elmer Sperry](#)<sup>[4]</sup> (1860–1930), first came into use to describe automobiles in 1898.<sup>[5]</sup>

## History

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The [Thomas B. Jeffery Company](#) automobile factory in [Kenosha](#), [Wisconsin](#) around 1916



Fiat 1800 and 2100 sedans being assembled at a Fiat factory in 1961

The automotive industry began in the 1860s with hundreds of manufacturers pioneering the [horseless carriage](#). Early car manufacturing involved manual assembly by a human worker. The process evolved from engineers working on a stationary car to a conveyor belt system where the car passed through multiple stations of more specialized engineers. In the 1960s, robotic equipment was introduced, and most cars are now mainly assembled by automated machinery.<sup>[6]</sup>

For many decades, the [United States](#) led the world in total automobile production, with the U.S. [Big Three General Motors, Ford Motor Company, and Chrysler](#) being the world's three largest auto manufacturers for a time, and G.M. and Ford remaining the two largest until the mid-2000s. In 1929, before the [Great Depression](#), the world had 32,028,500 automobiles in use, of which the U.S. automobile enterprises produced more than 90%. At that time, the U.S. had one car per 4.87 persons.<sup>[7]</sup> After 1945, the U.S. produced around three-quarters of the world's auto production. In 1980, the U.S. was overtaken by [Japan](#) and then became a world leader again in 1994. Japan narrowly passed the U.S. in production during 2006 and 2007, and in 2008 also [China](#), which in 2009 took the top spot (from Japan) with 13.8 million units, although the U.S. surpassed Japan in 2011, to become the second-largest automobile industry. In 2024, China produced more than 31 million vehicles in a year, after breaking 30 million in 2023, reaching 29 million for the first time in 2017 and 28 million the year before. In 2024, China produced the most passenger cars in the world, with Japan, India, Germany, and South Korea trailing. This was achieved by Chinese car companies signing joint ventures with foreign manufacturers.<sup>[8]</sup> From 1970 (140 models) to 1998 (260 models) to 2012 (684 models), the number of automobile models in the U.S. has grown exponentially.<sup>[9]</sup>

# Safety

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A 2010 [Hyundai Tucson](#) used for a [crash test](#) by the [Insurance Institute for Highway Safety](#)

Safety is a state that implies being protected from any risk, danger, damage, or cause of injury. In the automotive industry, safety means that users, operators, or [manufacturers](#) do not face any risk or danger coming from the motor vehicle or its spare parts. Safety for the automobiles themselves implies that there is no risk of damage.

Safety in the automotive industry is particularly important and therefore highly regulated. [Automobiles](#) and other [motor vehicles](#) have to comply with a certain number of regulations, whether local or international, in order to be accepted on the market. The standard [ISO 26262](#), is considered one of the best practice frameworks for achieving automotive [functional safety](#).<sup>[10]</sup>

In case of safety issues, danger, [product defect](#),<sup>[11][12]</sup> or faulty procedure during the manufacturing of the motor vehicle, the maker can request to return either a batch or the entire production run. This procedure is called [product recall](#). Product recalls happen in every industry and can be production-related or stem from raw materials.

Product and operation tests and inspections at different stages of the [value chain](#) are made to avoid these product recalls by ensuring end-user security and safety and compliance with the automotive industry requirements. However, the automotive industry is still particularly concerned about product recalls, which cause considerable financial consequences.





An advertisement for the [Pontiac 6](#), c. 1928

In 2007, there were about 806 million cars and light trucks on the road, consuming over 980 billion litres (980,000,000 m<sup>3</sup>) of [gasoline](#) and [diesel fuel](#) yearly.<sup>[13]</sup> The automobile is a primary mode of [transportation](#) for many developed economies. The Detroit branch of [Boston Consulting Group](#) predicted that, by 2014, one-third of world demand would be in the four [BRIC](#) markets (Brazil, Russia, India, and China). Meanwhile, in developed countries, the automotive industry has slowed.<sup>[14]</sup> It is also expected that this trend will continue, especially as the younger generations of people (in highly urbanized countries) no longer want to own a car, and prefer other modes of transport.<sup>[15]</sup> Other potentially powerful automotive markets are [Iran](#) and [Indonesia](#).<sup>[16]</sup> Emerging automobile markets already buy more cars than established markets.

According to a J.D. Power study, emerging markets accounted for 51 percent of the global [light-vehicle](#) sales in 2010. The study, performed in 2010 expected this trend to accelerate.<sup>[17][18]</sup> However, more recent reports (2012) confirmed the opposite; namely that the automotive industry was slowing down even in BRIC countries.<sup>[14]</sup> In the United States, vehicle sales peaked in 2000, at 17.8 million units.<sup>[19]</sup>

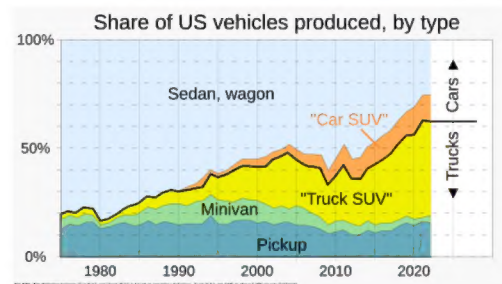
In July 2021, the European Commission released its "[Fit for 55](#)" legislation package,<sup>[20]</sup> which contains important guidelines for the future of the automotive industry; all new cars on the European market must be [zero-emission vehicles](#) from 2035.<sup>[21]</sup>

The governments of 24 developed countries and a group of major car manufacturers including [GM](#), [Ford](#), [Volvo](#), [BYD Auto](#), [Jaguar Land Rover](#) and [Mercedes-Benz](#) committed to "work towards all sales of new cars and vans being zero emission globally by 2040, and by no later than 2035 in leading markets".<sup>[22][23]</sup> Major car manufacturing nations like the United States, Germany, China,

Japan and South Korea, as well as [Volkswagen](#), [Toyota](#), [Peugeot](#), [Honda](#), [Nissan](#) and [Hyundai](#), did not pledge.<sup>[24]</sup>

## Environmental impacts

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Trucks' share of US vehicles produced, has tripled since 1975. Though vehicle fuel efficiency has increased within each category, the overall trend toward less efficient types of vehicles has offset some of the benefits of greater fuel economy and reduction of carbon dioxide emissions.<sup>[25]</sup> Without the shift towards SUVs, energy use per unit distance could have fallen 30% more than it did from 2010 to 2022.<sup>[26]</sup>

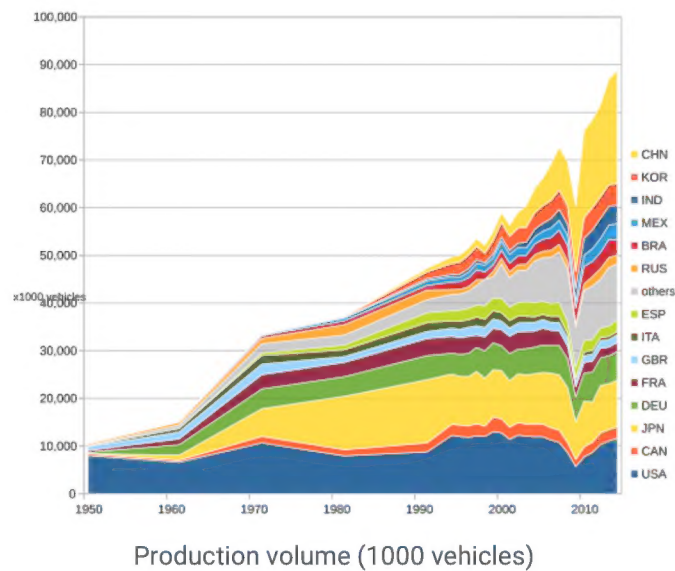
The global automotive industry is a major consumer of water. Some estimates surpass 180,000 L (39,000 imp gal) of water per car manufactured, depending on whether tyre production is included. Production processes that use a significant volume of water include surface treatment, painting, coating, washing, cooling, air-conditioning, and boilers, not counting component manufacturing. Paintshop operations consume especially large amounts of water because equipment running on water-based products must also be cleaned with water.<sup>[27]</sup>

In 2022, Tesla's [Gigafactory Berlin-Brandenburg](#) ran into legal challenges due to droughts and falling groundwater levels in the region. Brandenburg's Economy Minister Joerg Steinbach said that while water supply was sufficient during the first stage, more would be needed once Tesla expands the site. The factory would nearly double the water consumption in the Gruenheide area, with 1.4 million cubic meters being contracted from local authorities per year — enough for a city of around 40,000 people. Steinbach said that the authorities would like to drill for more water there and outsource any additional supply if necessary.<sup>[28]</sup>

## World motor vehicle production

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**World motor vehicle production**<sup>[29]</sup>



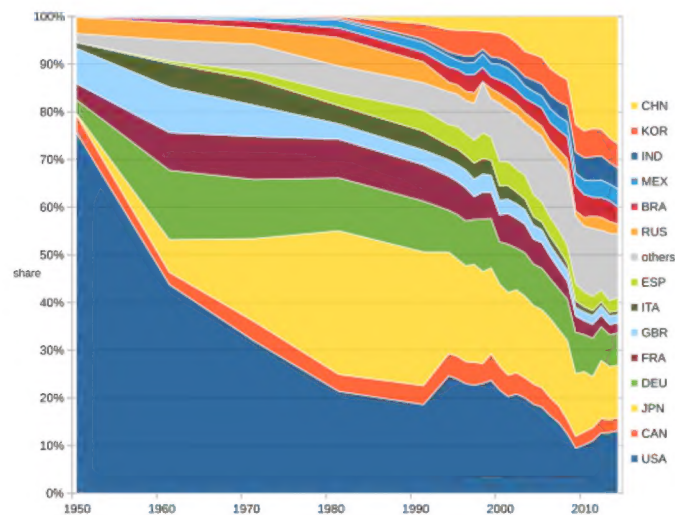
**1960s:** Post-war increase

**1970s:** Oil crisis and tighter safety and emission regulation

**1990s:** Production started in NICs.

**2000s:** Rise of China as a top producer

Automotive industry crisis of 2008–2010



**To 1950:** US had produced more than 80% of motor vehicles.<sup>[30]</sup>

**1950s:** United Kingdom, Germany, and France restarted production.

**1960s:** Japan started expanding production and increased volume through the 1980s. United States, Japan, Germany, France, and the United Kingdom produced about 80% of motor vehicles through the 1980s.



**1990s:** South Korea became a volume producer.  
In 2004, Korea became No. 5 passing France.

**2000s:** China increased its production drastically,  
and became the world's largest-producing  
country in 2009.

**2010s:** India overtakes Korea, Canada, Spain to  
become 5th largest automobile producer.

**2013:** The share of China (25.4%), India, Korea,  
Brazil, and Mexico rose to 43%, while the share of  
United States (12.7%), Japan, Germany, France,  
and United Kingdom fell to 34%.

**2018:** India overtakes Germany to become 4th largest  
automobile producer.

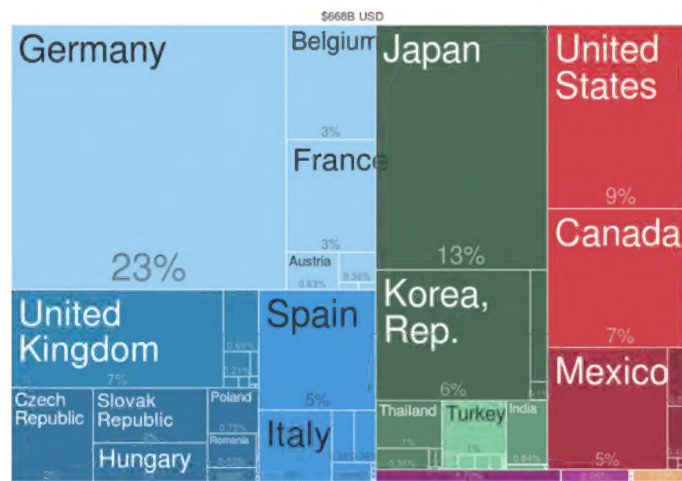


World motor production (1997–2016)

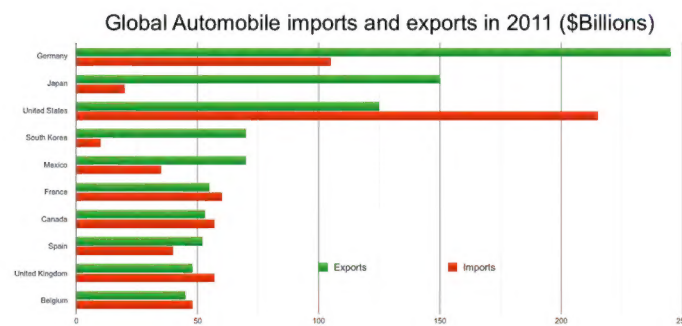
## By year

Year	Production	Change	Ref.
1997	54,434,000	—	<a href="#">[31]</a>
1998	52,987,000	▼ 2.7%	<a href="#">[31]</a>
1999	56,258,892	▲ 6.2%	<a href="#">[32]</a>
2000	58,374,162	▲ 3.8%	<a href="#">[33]</a>
2001	56,304,925	▼ 3.5%	<a href="#">[34]</a>
2002	58,994,318	▲ 4.8%	<a href="#">[35]</a>
2003	60,663,225	▲ 2.8%	<a href="#">[36]</a>
2004	64,496,220	▲ 6.3%	<a href="#">[37]</a>
2005	66,482,439	▲ 3.1%	<a href="#">[38]</a>
2006	69,222,975	▲ 4.1%	<a href="#">[39]</a>
2007	73,266,061	▲ 5.8%	<a href="#">[40]</a>
2008	70,520,493	▼ 3.7%	<a href="#">[41]</a>
2009	61,791,868	▼ 12.4%	<a href="#">[42]</a>
2010	77,857,705	▲ 26.0%	<a href="#">[43]</a>
2011	79,989,155	▲ 3.1%	<a href="#">[44]</a>
2012	84,141,209	▲ 5.3%	<a href="#">[45]</a>
2013	87,300,115	▲ 3.7%	<a href="#">[46]</a>
2014	89,747,430	▲ 2.6%	<a href="#">[47]</a>
2015	90,086,346	▲ 0.4%	<a href="#">[48]</a>
2016	94,976,569	▲ 4.5%	<a href="#">[49]</a>
2017	97,302,534	▲ 2.36%	<a href="#">[50]</a>
2018	95,634,593	▼ 1.71%	<a href="#">[51]</a>
2019	91,786,861	▼ 5.2%	<a href="#">[52]</a>
2020	77,621,582	▼ 16%	<a href="#">[53]</a>
2021	80,145,988	▲ 3.25%	<a href="#">[54]</a>
2022	85,016,728	▲ 6.08%	<a href="#">[55]</a>





Percentage of exported cars by country (2014)<sup>[56]</sup>



Global automobile import and export in 2011

## By country

The [OICA](#) counts over 50 countries that assemble, manufacture, or disseminate automobiles. Of those, only 15 countries (**boldfaced** in the list below) currently possess the capability to design original production automobiles from the ground up, and 17 countries (listed below) have at least one million produced vehicles a year (as of 2023).<sup>[57]</sup>

- [Algeria](#)
- [Argentina](#)
- **[Australia](#)** ([main page](#))
- [Austria](#)
- [Azerbaijan](#)
- [Bangladesh](#) ([main page](#))
- [Belarus](#) ([main page](#))
- [Belgium](#)
- [Brazil](#) ([main page](#))
- [Bulgaria](#) ([main page](#))
- [Canada](#) ([main page](#))
- **[China](#)** ([main page](#))
- [Colombia](#)
- [Czech Republic](#) ([main page](#))
- [Ecuador](#)
- [Egypt](#) ([main page](#))
- [Finland](#)
- **[France](#)** ([main page](#))
- [Ghana](#) ([main page](#))
- **[Germany](#)** ([main page](#))
- [Hungary](#) ([main page](#))
- **[India](#)** ([main page](#))

- [Indonesia \(main page\)](#)
- [Iran \(main page\)](#)
- [Italy \(main page\)](#)
- [Japan \(main page\)](#)
- [Jordan](#)
- [Kazakhstan](#)
- [Kenya \(main page\)](#)
- [Republic of Korea \(South Korea\) \(main page\)](#)
- [Malaysia \(main page\)](#)
- [Mexico \(main page\)](#)
- [Morocco \(main page\)](#)
- [Netherlands](#)
- [Pakistan \(main page\)](#)
- [Philippines \(main page\)](#)
- [Poland \(main page\)](#)
- [Portugal](#)
- [Romania \(main page\)](#)
- [Russia \(main page\)](#)
- [Serbia \(main page\)](#)
- [Slovakia \(main page\)](#)
- [Slovenia](#)
- [South Africa \(main page\)](#)
- [Spain \(main page\)](#)
- [Sweden \(main page\)](#)
- [Syria](#)
- [Thailand \(main page\)](#)
- [Tunisia](#)
- [Turkey \(main page\)](#)
- [Ukraine \(main page\)](#)
- [United Kingdom \(main page\)](#)
- [United States \(main page\)](#)
- [Uzbekistan \(main page\)](#)
- [Venezuela](#)
- [Vietnam \(main page\)](#)

Country	Produced vehicles 2023 <sup>[58]</sup>
China (plus <a href="#">Taiwan</a> )	30,160,966 (30,446,928)
USA	10,611,555
Japan	8,997,440
India	5,851,507
Republic of Korea	4,243,597
Germany	4,109,371
Mexico	4,002,047
Spain	2,451,221
Brazil	2,324,838
Thailand	1,841,663
Canada	1,553,026
France	1,505,076
Turkey	1,468,393
Czechia	1,404,501
Indonesia	1,395,717
Slovakia	1,080,000
U.K.	1,025,474

## By manufacturer

### Top 10 (2016–2020)

These were the ten largest manufacturers by production volume as of 2017,<sup>[59]</sup> of which the eight largest were in the top 8 positions since [Fiat's 2013 acquisition](#) of the [Chrysler](#) Corporation (although the [PSA Group](#) had been in the top 8 1999 to 2012, and 2007 to 2012 one of the eight largest along with the seven largest as of 2017) and the five largest in the top 5 positions since 2007, according to OICA, which, however, stopped publishing statistics of motor vehicle production by manufacturer after 2017. All ten remained as the ten largest automakers by sales until [the merger between Fiat-Chrysler and the PSA Group in early 2021](#); only [Renault](#) was degraded to 11th place, in 2022, when being surpassed by both [BMW](#) (which became the 10th largest in 2021) and [Chang'an](#).<sup>[60]</sup>



Rank <sup>[a]</sup>	Group	Country	Produced vehicles (2017) <sup>[59]</sup>	Sold vehicles (2018)	Sold vehicles (2019) <sup>[61]</sup>
1	<a href="#">Toyota</a>	Japan	10,466,051	10,521,134	10,741,556
2	<a href="#">Volkswagen Group</a>	Germany	10,382,334	10,831,232	10,975,352
3	<a href="#">General Motors</a> (except <a href="#">SAIC-GM-Wuling</a> ) <sup>[b]</sup>	United States	9,027,658 (6,856,880)	8,787,233	7,724,163
4	<a href="#">Hyundai</a>	South Korea	7,218,391	7,437,209	7,189,893
5	<a href="#">Ford</a>	United States	6,386,818	5,734,217	5,385,972
6	<a href="#">Nissan</a>	Japan	5,769,277	5,653,743	5,176,211
7	<a href="#">Honda</a>	Japan	5,235,842	5,265,892	5,323,319
8	<a href="#">Fiat-Chrysler</a> (now part of <a href="#">Stellantis</a> )	Italy / United States	4,600,847	4,841,366	4,612,673
9	<a href="#">Renault</a>	France	4,153,589	3,883,987	3,749,815
10	<a href="#">PSA Group</a> (now part of <a href="#">Stellantis</a> )	France	3,649,742	4,126,349	3,479,152

## Top 20 (2012–2013)

These were the twenty largest manufacturers by production volume in 2012 and 2013, or the 21 largest in 2011 (before [the Fiat-Chrysler merger](#)), of which the fourteen largest as of 2011 were in the top 14 in 2010, 2008 and 2007 (but not 2009, when Changan and Mazda temporarily degraded Chrysler to 16th place). The eighteen largest as of 2013 have remained in the top 20 as of 2017, except Mitsubishi which fell out of top 20 in 2016, while Geely fell out of the top 20 in 2014 and 2015 but re-entered it in 2016.

Rank <sup>[c]</sup>	Group	Country	Produced vehicles (2013) <sup>[62]</sup>	Produced vehicles (2012) <sup>[63]</sup>	Produced vehicles (2011) <sup>[64]</sup>
1	<a href="#">Toyota</a>	Japan	10,324,995	10,104,424	8,050,181
2	<a href="#">General Motors</a>	United States	9,628,912	9,285,425	9,031,670
3	<a href="#">Volkswagen Group</a>	Germany	9,379,229	9,254,742	8,525,573
4	<a href="#">Hyundai</a>	South Korea	7,233,080	7,126,413	6,616,858
5	<a href="#">Ford</a>	United States	6,077,126	5,595,483	5,516,931
6	<a href="#">Nissan</a>	Japan	4,950,924	4,889,379	4,631,673
7	<a href="#">Fiat / FCA</a>	Italy	4,681,704	4 498 722 <sup>[d]</sup>	2,336,954
8	<a href="#">Honda</a>	Japan	4,298,390	4,110,857	2,909,016
9	<a href="#">PSA Peugeot Citroën</a>	France	2,833,781	2,911,764	3,582,410
10	<a href="#">Suzuki</a>	Japan	2,842,133	2,893,602	2,725,899
11	<a href="#">Renault</a>	France	2,704,675	2,676,226	2,825,089
12	<a href="#">Daimler</a>	Germany	1,781,507	2,195,152	2,137,067
	<a href="#">Chrysler</a>	United States	part of <a href="#">FCA</a>	part of FCA	1,999,017
13	<a href="#">BMW</a>	Germany	2,006,366	2,065,477	1,738,160
14	<a href="#">SAIC</a>	China	1,992,250	1,783,548	1,478,502
15	<a href="#">Tata</a>	India	1,062,654	1,241,239	1,197,192
16	<a href="#">Mazda</a>	Japan	1,264,173	1,189,283	1,165,591
17	<a href="#">Dongfeng</a>	China	1,238,948	1,137,950	1,108,949
18	<a href="#">Mitsubishi</a>	Japan	1,229,441	1,109,731	1,140,282
19	<a href="#">Changan</a>	China	1,109,889	1,063,721	1,167,208
20	<a href="#">Geely</a>	China	969,896	922,906	897,107

## Notable company relationships

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### Stake holding

It is common for automobile manufacturers to hold stakes in other automobile manufacturers. These ownerships can be explored under the detail for the individual companies.

Notable current relationships include:

- [Toyota](#) subsidiary [Daihatsu](#) holds a 25% stake in [Perodua](#).<sup>[65]</sup>
- Mercedes-Benz Group holds a 30.01% stake in [Daimler Truck](#) and [BAIC Group](#) holds a 6.49% stake.
- Daimler Truck holds an 89.29% stake in [Fuso](#).

- Mercedes-Benz Group held a combined 6.2% stake in the [Renault-Nissan-Mitsubishi Alliance](#), and the Renault-Nissan-Mitsubishi Alliance also held a combined 6.2% stake in Mercedes-Benz Group until 2021.<sup>[66]</sup>
- Mercedes-Benz Group holds a 12% stake in [BAIC Group](#), while BAIC Group holds 5% stake in Mercedes-Benz Group.<sup>[67]</sup>
- [Dongfeng Motor](#) holds a 12.23% stake and a 19.94% exercisable voting rights in [PSA Group](#).
- [FAW Group](#) holds a 49% stake of [Haima Automobile](#).
- [Stellantis](#) holds a 67% stake in [FCA Srbija](#).
- FCA holds a 37.8% stake in [Tofaş](#) with another 37.8% stake hold by [Koç Holding](#).
- [Fiat Automobili Srbija](#) holds a 54% stake in [Zastava Trucks](#).
- [Fiat Industrial](#) holds a 46% stake in [Zastava Trucks](#).
- [Fujian Motors Group](#) holds a 15% stake in [King Long](#). FMG, Beijing Automotive Group, [China Motor](#), and Mercedes-Benz Group has a joint venture called [Fujian Benz](#). FMG, China Motor, and Mitsubishi Motors has a joint venture called [Soueast](#), FMG holds a 50% stake, and both China Motor and Mitsubishi Motors holds an equal 25% stake.
- [Geely Automobile](#) holds a 23% stake in [London EV Company](#).
- Geely Automobile holds a 49.9% stake in [Proton Holdings](#) and a 51% stake in [Lotus Cars](#).<sup>[68]</sup>
- [Geely Holding Group](#) holds a 9.69% stake in [Mercedes-Benz Group](#).<sup>[69]</sup>
- Geely Holding Group holds an 8.3% stake and a 15.9% exercisable voting rights in [Volvo](#).
- [General Motors](#) holds a 93% stake in [GM India](#) and [SAIC Motor](#) holds a 7% stake.
- [General Motors](#) owns [GM Korea](#) (historically [Daewoo Motors](#)) as its Korean operations.
- General Motors holds a 20% stake in [Industries Mécaniques Maghrébines](#).
- [Isuzu](#) holds a 10% stake in [Industries Mécaniques Maghrébines](#).
- [Marcopolo](#) holds a 19% stake in [New Flyer Industries](#).
- [Mitsubishi Corporation](#) holds a 20% stake in [Mitsubishi Motors](#).
- [Nissan](#) held a 34% stake in [Mitsubishi Motors](#) beginning October 2016,<sup>[70]</sup> thus having the right to nominate the chairman of Mitsubishi Motors' board and a third of its directors. Mitsubishi bought some of its shares back from Nissan in November 2024, decreasing Nissan's stake to 24%.<sup>[71]</sup>
- Nissan holds a 43% stake in [Nissan Shatai](#).



- [Porsche SE](#) holding company holds a 53.3% voting stake in [Volkswagen Group](#). The [Porsche AG](#) automotive business is fully owned by the Volkswagen Group.
- [Renault](#) and [Nissan](#) have an alliance ([Renault-Nissan-Mitsubishi Alliance](#), with Mitsubishi joining in 2016 through Nissan's acquisition of a 34% stake in the company) involving two global companies linked by cross-shareholding, with Renault holding a 43.4% stake in Nissan shares, and Nissan holding a 15% stake of (non-voting) Renault shares. In January 2023, Renault said it intended to transfer almost 30% of its controlling stake in Nissan to a French trust, reducing its shares with voting rights to a minority 15% and, in doing so, matching Nissan shares in Renault to gain equal voting rights.<sup>[72][73]</sup> The share transfer was completed in November 2023.<sup>[74]</sup>
- Renault formerly held a 25% stake in [AvtoVAZ](#); on December 2018, Renault and Russian state-owned holding company [Rostec](#) acquired all shares of AvtoVAZ (with Renault owning a 67.61% stake), but in 2022 Renault sold all of its shares to state-owned [Central Research and Development Automobile and Engine Institute](#) (NAMI), re-nationalising AvtoVAZ.
- Renault holds an 52.8% stake in [Renault Korea](#).
- [SAIPA](#) holds a 51% stake in [Pars Khodro](#).
- [Tata Motors](#) holds a 100% stake in [Jaguar Land Rover](#).
- [Toyota](#) holds a 100% stake in [Daihatsu](#).
- Toyota holds a 100% stake in [Hino](#).
- Toyota holds a 4.6% stake in [Isuzu](#).
- Toyota holds a 5.05% stake in [Mazda](#), while Mazda holds a 0.25% stake in Toyota.<sup>[75]</sup>
- Toyota holds a 16.7% stake in transportation, automotive, and defense conglomerate [Subaru Corporation](#) (formerly Fuji Heavy Industries), parent company of [Subaru](#).
- Toyota holds a 4.94% stake in [Suzuki](#), while Suzuki holds a 0.2% stake in Toyota.<sup>[76]</sup>
- [Volkswagen Group](#) holds a 99.55% stake in the [Audi Group](#).
- Volkswagen Group holds a 37.73% stake in [Scania](#) (68.6% voting rights), a 53.7% stake in [MAN SE](#) (55.9% voting rights). Volkswagen is integrating Scania, MAN, and its own truck division into one division.
- [Paccar](#) holds a 19% stake in [Tatra](#).
- [ZAP](#) holds a 51% stake in [Zhejiang Jonway](#).

## Joint ventures

### China joint venture

- [Beijing Automotive Group](#) has a joint venture with [Mercedes-Benz Group](#) called [Beijing Benz](#), both companies hold a 50-50% stake. both companies also have a joint venture called [Beijing Foton Daimler Automobile](#).
- Beijing Automotive Group also has a joint venture with [Hyundai](#) called [Beijing Hyundai](#), both companies hold a 50-50% stake.
- [BMW](#) and [Brilliance](#) have a joint venture called [BMW Brilliance](#). BMW owns a 50% stake, Brilliance owns a 40.5% stake, and the Shenyang municipal government owns a 9.5% stake.
- [Changan Automobile](#) has a joint venture with [PSA Group](#) ([Changan PSA](#)), and both hold a 50-50% stake.
- Changan Automobile has a joint venture with [Suzuki](#) ([Changan Suzuki](#)), and both hold a 50-50% stake.
- Changan Automobile has a 50-50% joint venture with [Mazda](#) ([Changan Mazda](#)).
- Changan Automobile and [Ford](#) have a 50-50% joint venture called [Changan Ford](#).
- Changan Automobile and [JMCG](#) have a joint venture called [Jiangling Motor Holding](#).
- [Chery](#) has a joint venture with [Jaguar Land Rover](#) called [Chery Jaguar Land Rover](#), both companies hold a 50-50% stake.<sup>[77]</sup>
- Chery and [Israel Corporation](#) have a joint venture called [Qoros](#), and both companies hold a 50-50% stake.
- [Dongfeng Motor Corporation](#) and [Nissan](#) have a 50-50% joint venture called [Dongfeng Motor Company](#).
- [Mercedes-Benz Group](#) and [BYD Auto](#) have a joint venture called [Denza](#), both companies hold a 50-50% stake.
- Mercedes-Benz Group and [Geely Holding Group](#) have a joint venture called [smart Automobile](#), both companies hold a 50-50% stake.<sup>[78]</sup>
- Dongfeng Motor and [Stellantis](#) (until 2021 [PSA Group](#)) have a 50-50% joint venture called [Dongfeng Peugeot-Citroën](#).
- Dongfeng Motor has a 50-50% joint venture with [Honda](#) called [Dongfeng Honda](#).
- Dongfeng Motor formerly had a joint venture with [AB Volvo](#) called [Dongfeng Nissan-Diesel](#).
- Dongfeng Motor has a 50-50% joint venture with [Renault](#) named [Dongfeng Renault](#) in [Wuhan](#), which was founded in the end of 2013

- [FAW Group](#) and [General Motors](#) has a 50-50 joint venture called [FAW-GM](#).
- FAW Group has a 50-50 joint venture with [Volkswagen Group](#) called [FAW-Volkswagen](#).
- FAW Group has a 50-50 joint venture with [Toyota](#) called [Sichuan FAW Toyota Motor](#) and both companies also have another joint venture called [Ranz](#).
- [General Motors](#) and [SAIC Motor](#), both have two joint ventures in [SAIC-GM](#) and [SAIC-GM-Wuling](#), the latter alongside [Wuling Motors](#).
- [Navistar International](#) and [JAC](#) has a joint venture called [Anhui Jianghuai Navistar](#).

## **Outside China**

- [Ford](#) and [International Motors](#) have a 50-50 joint venture called [Blue Diamond Truck](#).
- Ford and [Sollers JSC](#) have a 50-50 joint venture called [Ford Sollers](#).
- Ford and [Koç Holding](#) have a 50-50 joint venture called [Ford Otosan](#).
- Ford and Lio Ho Group have a joint venture called [Ford Lio Ho](#), Ford owns 70% and Lio Ho Group owns 30%.
- General Motors and UzAvtosanoat have a joint venture called [GM Uzbekistan](#), UzAvtosanoat owns 75% and General Motors owns 25%.
- General Motors, [AvtoVAZ](#), and [EBRD](#) have a joint venture called [GM-AvtoVAZ](#), Both GM and AvtoVAZ owns 41.61% and EBRD owns 16.76%.
- [Hyundai Motor Company](#) and Kibar Holding has a joint venture called [Hyundai Assan Otomotiv](#), [Hyundai](#) owns 70% and Kibar Holding owns 30%.
- [Isuzu](#) and Anadolu Group have a 50-50% joint venture called [Anadolu Isuzu](#).
- Isuzu and [General Motors](#) has a 50-50% joint venture called [Isuzu Truck South Africa](#).
- Isuzu, [Sollers JSC](#), and Imperial Sojitz have a joint venture called [Sollers-Isuzu](#), Sollers JSC owns 66%, Isuzu owns 29%, and Imperial Sojitz owns 5%.
- [Mahindra & Mahindra](#) and [International Motors](#) have a joint venture called [Mahindra Trucks and Buses Limited](#). Mahindra & Mahindra owns 51% and International Motors owns 49%.
- [MAN SE](#) and UzAvtosanoat have a joint venture called [MAN Auto-Uzbekistan](#), UzAvtosanoat owns 51% and MAN SE owns 49%.
- [PSA](#) and [Toyota](#) formerly owned a 50-50% joint venture called [Toyota Peugeot Citroën Automobile Czech](#), however on 1 January 2021 Toyota bought all of PSA's shares and renamed the now wholly-owned plant to Toyota Motor Manufacturing Czech Republic.
- PSA and [CK Birla Group](#) (AVTEC) have a 50-50% joint venture called PSA AVTEC Powertrain Pvt. Ltd.



- [Sollers JSC](#) is involved in joint ventures with [Ford](#) ([Ford Sollers](#) ) and [Mazda](#) to produce cars.
- [Tata Motors](#) also formed a joint venture in India with [Fiat](#) and gained access to Fiat's diesel engine technology.
- Tata Motors and [Marcopolo](#) have a joint venture called [Tata Marcopolo](#), where Tata owns 51% and Marcopolo owns 49%.
- [Volvo](#) and [Eicher Motors](#) have a 50-50% joint venture called [VE Commercial Vehicles](#).

## See also

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- [2008–2010 automotive industry crisis](#)
- [Alliance of Automobile Manufacturers](#)
- [Automotive industry by country](#)
- [Automotive industry in the United States](#)
- [Big Three \(automobile manufacturers\)](#)
- [Effects of the 2008–10 automotive industry crisis on the United States](#)
- [List of countries by motor vehicle production](#)
- [Automotive acronyms and abbreviations](#)
- [Motorcycle](#)

## Notes

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- a. As of 2017
- b. OICA lists SAIC-GM-Wuling combined with G.M. until 2014 but separately from 2015. Including SAIC-GM-Wuling, G.M. would still be larger than Hyundai until 2020.
- c. As of 2012
- d. Fiat acquired Chrysler in 2012. However, Fiat and Chrysler was still listed separately by OICA in 2012, and combined first from 2013. Separately, the production by Fiat was 2,127,295 and by Chrysler 2,371,427.

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